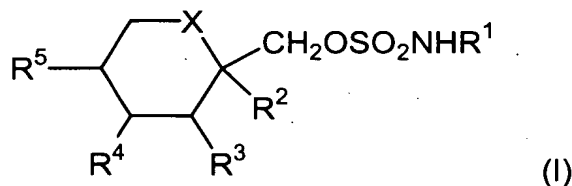


What is claimed is:

1. A method for treating Type II diabetes mellitus in mammals afflicted with such condition comprising administering to said mammal a therapeutically effective amount of a compound of the formula I:

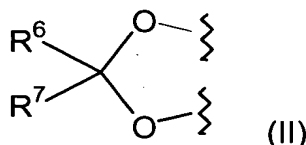


wherein

X is CH<sub>2</sub> or oxygen;

R<sup>1</sup> is hydrogen or alkyl; and

R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> are independently hydrogen or lower alkyl and, when X is CH<sub>2</sub>, R<sup>4</sup> and R<sup>5</sup> may be alkene groups joined to form a benzene ring and, when X is oxygen, R<sup>2</sup> and R<sup>3</sup> and/or R<sup>4</sup> and R<sup>5</sup> together may be a methylenedioxy group of the following formula (II):



wherein

R<sup>6</sup> and R<sup>7</sup> are the same or different and are hydrogen, lower alkyl or are alkyl and are joined to form a cyclopentyl or cyclohexyl ring;

in combination with a therapeutically effective amount of one or more anti-diabetic agent.

2. The method of claim 1 wherein the compound of formula I is topiramate.

3. The method of claim 1, wherein the therapeutically effective amount of the compound of formula I is from about 32 to 512 mg.

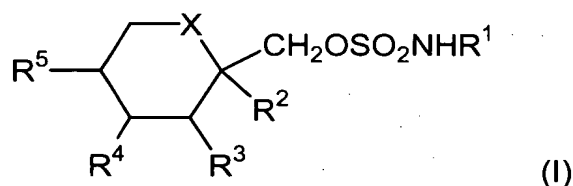
4. The method of claim 1, wherein the therapeutically effective amount of the compound of formula I is of from about 16 to 256 mg once or twice daily.

5. The method of Claim 1 wherein the anti-diabetic agent is selected from the group consisting of a sulfonylurea, a meglitinide, an agents which modify insulin secretion, a biguanide, a thiazolidinedione, a peroxisome proliferator-activated receptor-gamma agonist (PPAR-gamma), a Retinoid-X receptor (RXR) modulator, an insulin sensitizing agent, an alpha-glucosidase inhibitor, an insulin, a small molecule mimics of insulin, Na a-glucose co-transporter inhibitor, an amylin agonists and a glucagon antagonist.

6. The method of Claim 1 wherein the anti-diabetic agent is selected from the group consisting of metformin, a sulfonylureas, a thiazolidinediones and insulin.

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7. A method of treating Syndrome X (Insulin Resistance Syndrome, Metabolic Syndrome, or Metabolic Syndrome X) in mammals afflicted with such condition comprising administering to said mammal a therapeutically effective amount of a compound of the formula I:



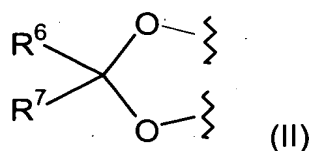
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wherein

X is CH<sub>2</sub> or oxygen;

R<sup>1</sup> is hydrogen or alkyl; and

25 R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> are independently hydrogen or lower alkyl and, when X is CH<sub>2</sub>, R<sup>4</sup> and R<sup>5</sup> may be alkene groups joined to form a benzene ring and, when X is oxygen, R<sup>2</sup> and R<sup>3</sup> and/or R<sup>4</sup> and R<sup>5</sup> together may be a methylenedioxy group of the following formula (II):



wherein

R<sup>6</sup> and R<sup>7</sup> are the same or different and are hydrogen, lower alkyl or are alkyl and are joined to form a cyclopentyl or cyclohexyl ring;

in combination with a therapeutically effective amount of one or more  
5 anti-diabetic agent.

8. The method of claim 8 wherein the compound of formula I is topiramate.

9. The method of claim 8, wherein the therapeutically effective amount of  
10 the compound of formula I is from about 32 to 512 mg.

10. The method of claim 8, wherein the therapeutically effective amount of the compound of formula I is of from about 16 to 256 mg once or twice daily.

15 11. The method of Claim 8 wherein the anti-diabetic agent is selected from the group consisting of a sulfonylurea, a meglitinide, an agents which modify insulin secretion, a biguanide, a thiazolidinedione, a peroxisome proliferator-activated receptor-gamma agonist (PPAR-gamma), a Retinoid-X receptor (RXR) modulator, an insulin sensitizing agent, an alpha-glucosidase inhibitor,  
20 an insulin, a small molecule mimics of insulin, Na a-glucose co-transporter inhibitor, an amylin agonists and a glucagon antagonist.

12. The method of Claim 1 wherein the anti-diabetic agent is selected from the group consisting of metformin, a sulfonylureas, a thiazolidinediones and  
25 insulin.